

S2952 SAT-LOI-20160208-00014 IB2016000398  
ViaSat, Inc.  
VIASAT-79W



File # SAT-LOI-20160208-00014  
Call Sign S2952 Grant Date 10/05/16  
(or other identifier)  
From see conditions To: see conditions  
Approved: *Stephen J. Dual*

Approved by OMB  
3060-0678

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APPLICATION FOR SATELLITE SPACE STATION AUTHORIZATIONS FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	FCC Use Only
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APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:  
VIASAT-79W Letter of Intent

1-8. Legal Name of Applicant			
Name:	ViaSat, Inc.	Phone Number:	760-893-1674
DBA Name:		Fax Number:	
Street:	6155 El Camino Real	E-Mail:	chris.hofer@viasat.com
City:	Carlsbad	State:	CA
Country:	USA	Zipcode:	92009
Attention:	Chris Hofer		

**ATTACHMENT TO GRANT**  
**ViaSat, Inc.**  
**IBFS File No. SAT-LOI-20160208-00014**

<b>IBFS File No(s):</b>	SAT-LOI-20160208-00014	<p><b>GRANTED – With Conditions</b></p>  <p><b>International Bureau Satellite Division</b></p>
<b>Licensee/Grantee:</b>	ViaSat, Inc.	
<b>Call Sign:</b>	S2952	
<b>Satellite Name:</b>	VIASAT-79W	
<b>Orbital Location: (required station-keeping tolerance)</b>	79.0° W.L. (+/-0.05° east-west)	
<b>Administration:</b>	United Kingdom	
<b>Nature of Service:</b>	Fixed-Satellite Service (FSS) <sup>1</sup>	
<b>Scope of Grant:</b>	Grant of U.S. Market Access	
<b>Service Area(s):</b>	See Schedule S at Item S6 and accompanying files.	
<b>Frequencies<sup>2</sup>:</b>	18.3-18.8 GHz (space-to-Earth) 18.8-19.3 GHz (space-to-Earth) 19.7-20.2 GHz (space-to-Earth)  28.1-28.35 GHz (Earth-to-space) 28.35-28.6 GHz (Earth-to-space) 28.6-29.1 GHz (Earth-to-space) 29.5-30.0 GHz (Earth-to-space)	
<p><b>Operations under this grant must comport with the legal and technical specifications set forth by the applicant or petitioner and with Federal Communication Commission’s rules not waived herein. This grant is also subject to the following conditions:</b></p> <ol style="list-style-type: none"> <li>1. This grant does not include the provision of any direct-to-home (DTH) services, Direct Broadcast Satellite (DBS) Service, or Digital Audio Radio Service (DARS) to, from, or within the United States.</li> <li>2. Communications between U.S.-licensed earth stations and the VIASAT-79W space station must comply with all existing and future space station coordination agreements reached between the United Kingdom and other administrations.</li> <li>3. ViaSat must maintain its VIASAT-79W space station with an east/west longitudinal station-keeping tolerance of <math>\pm 0.05</math> degrees of the 79.0° W.L. orbital location.</li> <li>4. ViaSat’s request for waiver of footnote NG165 to Section 2.106 of the United States Table of Frequency Allocations, 47 CFR § 2.106, NG165, to permit ViaSat to operate its GSO FSS VIASAT-79W space station in the 18.8-19.3 GHz (space-to-Earth) frequency band on a non-conforming basis is GRANTED. In the United States, the 18.8-19.3 GHz frequency band is designed for non-Federal, non-geostationary orbit (NGSO) FSS operations on a primary basis, with no designation for non-Federal GSO operations. The 18.8-19.3 GHz band is also allocated to Federal GSO and NGSO FSS operations on a primary basis. As a non-conforming user, ViaSat must accept any interference from any non-Federal NGSO FSS system, any Federal GSO FSS or NGSO FSS system, or any grandfathered co-primary fixed service</li> </ol>		

<sup>1</sup> ViaSat states that it intends to provide service to small, fixed, temporary-fixed, and mobile user antennas. ViaSat Attachment A, Technical Information to Supplement Schedule S, at 1. To the extent that ViaSat seeks to provide service to mobile user antennas in the United States with VIASAT-79W, we note that such earth station operations will require a waiver of Section 2.106 of the Commission’s rules, 47 CFR § 2.106.

<sup>2</sup> VIASAT-79W will also be capable of operating in the 17.7-21.2 GHz band (space-to-Earth) and the 27.5-31.0 GHz band (Earth-to-space), but it does not seek a grant of market access to provide service to the United States in these frequency bands and no such market access is granted in these bands. ViaSat Attachment A, Technical Information to Supplement Schedule S, at n.1.

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- stations authorized to use the 18.8-19.3 GHz frequency band. In addition, ViaSat must not cause harmful interference to any authorized non-Federal NGSO FSS system, any authorized Federal GSO FSS or NGSO FSS system, or any grandfathered co-primary fixed service stations, and must immediately cease operations upon notification of such harmful interference resulting from its operations.
5. ViaSat must coordinate its space-to-Earth operations in the 18.3-19.3 GHz and 19.7-20.2 GHz frequency bands with the U.S. Federal systems, including Federal operations to earth stations in foreign countries, in accordance with footnote US334 to the United States Table of Frequency Allocations, 47 CFR § 2.106. In addition to meeting the terms of the coordination agreement, the non-conforming VIASAT-79W operations in the 18.8-19.3 GHz band must not cause harmful interference to, nor claim protection from, present and future Federal GSO and NGSO systems, non-Federal NGSO systems, or any non-conforming services previously authorized on a non-harmful interference basis.
  6. The power flux-density (pfd) at the Earth's surface produced by the emissions from the VIASAT-79W space station for all atmospheric conditions, and for all methods of modulation in the 18.3-19.3 GHz and 19.7-20.2 GHz frequency bands (space-to-Earth), must not exceed a level of -118 dBW/m<sup>2</sup>/MHz at any angle of arrival.<sup>3</sup>
  7. ViaSat's request for a waiver of Section 25.114(c)(4) of the Commission's rules, 47 CFR § 25.114(c)(4), to the extent necessary to provide antenna beam information for two representative beams in lieu of replicating the beam information for additional, identical beams, IS GRANTED. Specifically, we waive in part Sections 25.114(c)(4)(i), (ii), and (v) of the Commission's rules, 47 CFR §§ 25.114(c)(4)(i), (ii), (v). We find that a waiver is warranted in this instance because the representative beam information, when combined with the antenna gain contour information ViaSat provided under Section 25.114(c)(4)(vii)(C) of the Commission's rules, 47 CFR § 25.114(c)(4)(vii)(C), is sufficient to fulfill the relevant informational requirements.
  8. ViaSat's request for a waiver of Section 25.210(i)(1) of the Commission's rules, 47 CFR § 25.210(i)(1), for the VIASAT-79W space station is no longer necessary. At the time ViaSat submitted its application, Section 25.210(i)(1) required space station antennas in the FSS to be designed to meet a cross-polarization isolation of at least 30 dB within the primary coverage area of the antenna. This provision was eliminated as part of a recent Commission-level order streamlining Part 25 rules governing satellite communications.<sup>4</sup>
  9. VIASAT-79W's operations must not cause harmful interference to any non-Federal stations authorized to operate on a primary basis in the 28.6-29.1 GHz frequency band, must accept any interference from these systems, and must terminate operations immediately upon notification of harmful interference.
  10. This grant is based upon a finding that ViaSat is and will be subject to direct and effective regulation by the United Kingdom concerning orbital debris mitigation.<sup>5</sup> This grant will become effective and remain effective only to the extent that launch and space operations are authorized by the United Kingdom Space Agency under the United Kingdom Outer Space Act. ViaSat must file evidence in the public record of this proceeding demonstrating grant of any authorizations within five business days of action by the

<sup>3</sup> Footnote US255 to the Table of Allocations, 47 CFR § 2.106, requires that the pfd across the 200 megahertz of the 18.6-18.8 GHz band not exceed -95 dBW/m<sup>2</sup>. ViaSat proposes to operate the VIASAT-79W space station with a maximum pfd of -118 dBW/m<sup>2</sup>/MHz in this band. This level corresponds to a maximum pfd of -95 dBW/m<sup>2</sup>/200 MHz. Consequently, VIASAT-79W's proposed operations meet the pfd limit in US255. VIASAT-79W's operations also meet other pfd limits for transmitting Ka-band space stations. See 47 CFR §§ 25.138(a)(6), 25.208(c), 25.208(d), and 25.208(e).

<sup>4</sup> *Comprehensive Review of Licensing and Operating Rules for Satellite Services*, IB Docket No. 12-267, Second Report and Order, 30 FCC Rcd. 14713, 14817, para. 333 (2015) (*Part 25 Second Report and Order*).

<sup>5</sup> As a result, we decline to address ViaSat's request for waiver of Section 25.283(c) of the Commission's rules, 47 CFR § 25.283(c). See ViaSat Letter of Intent at 12, n.32.

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United Kingdom Space Agency.

11. Communications between U.S.-licensed earth stations and VIASAT-79W in the 28.10-28.35 GHz (Earth-to-space) frequency band are on a secondary basis with respect to LMDS until the provisions adopted in FCC 16-89 go into force. After that, communications between U.S.-licensed earth stations and VIASAT-79W in this band are secondary with respect to Upper Microwave Flexible Use Service (UMFUS) operations, except for FSS operations associated with earth stations authorized pursuant to 47 CFR § 25.136.
12. The operations of VIASAT-79W to and from the United States and associated earth stations must comport with the applicable uplink and downlink limits in 47 CFR § 25.140(a)(3) of the Commission's rules, unless ViaSat coordinates any non-conforming operations with the operations of U.S.-licensed geostationary orbit space stations within 6 degrees of the 79.0° W.L. orbital location. ViaSat must also comport with the maximum power limits indicated in its application. Non-conforming operation must also be coordinated with respect to those operations of non-U.S.-licensed space stations within 6 degrees of 79.0° W.L. involving approved communications with U.S.-licensed earth stations.
13. This grant of U.S. market access is subject to the following requirements:
  - a. ViaSat must post a surety bond in satisfaction of 47 CFR §§ 25.165(a)(2) & (b) no later than November 4, 2016 and thereafter maintain on file a surety bond requiring payment in the event of a default in an amount, at minimum, determined according to the formula set forth in 47 CFR § 25.165(a)(2); and
  - b. ViaSat must launch the space station, position it in its assigned orbital location, and operate it in accordance with the station authorization no later than October 5, 2021, 47 CFR § 25.164(a).

This grant of U.S. market access will be null and void automatically, without further Commission action if ViaSat fails to comply with any of these requirements. Failure to comply with the milestone requirement of 47 CFR § 25.164(a) will also result in forfeiture of ViaSat's surety bond. By October 20, 2021, ViaSat must either demonstrate compliance with its milestone requirement or notify the Commission in writing that the requirement was not met. 47 CFR § 25.164(f).

14. This grant of market access will terminate in the event that the VIASAT-79W space station is relocated from the 79° W.L. orbital location or ceases to operate.

Licensee/grantee is afforded thirty (30) days from the date of release of this action to decline the grant as conditioned. Failure to respond within this period will constitute formal acceptance of the grant as conditioned.

This action is taken pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 CFR § 0.261, and is effective upon release.

Station licenses are subject to the conditions specified in Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. § 309(h).

<b>Action Date:</b>	October 5, 2016	
<b>Term Dates</b>	<b>From:</b> see conditions	<b>To:</b> see conditions

**ATTACHMENT TO GRANT**  
**ViaSat, Inc.**  
**IBFS File No. SAT-LOI-20160208-00014**

**Approved:**



Stephen J. Duall  
Chief, Satellite Policy Branch

9-16. Name of Contact Representative

Name:	John P. Janka	Phone Number:	202-637-2200
Company:	Latham & Watkins LLP	Fax Number:	202-637-2201
Street:	555 Eleventh Street, NW Suite 1000	E-Mail:	john.janka@lw.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20004 -1304
Attention:		Relationship:	Legal Counsel

CLASSIFICATION OF FILING

17. Choose the buttonnext to the classification that applies to thisfiling for both questions a. and b. Choose only one for 17a and only one for 17b.

- a.  
(N/A) a1. Earth Station  
 a2. Space Station

- b.  
 b1. Application for License of New Station  
(N/A) b2. Application for Registration of New Domestic Receive-Only Station  
(N/A) b3. Amendment to a Pending Application  
(N/A) b4. Modification of License or Registration  
(N/A) b5. Assignment of License or Registration  
(N/A) b6. Transfer of Control of License or Registration  
(N/A) b7. Notification of Minor Modification  
(N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite  
  
 b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States  
 b10. Replacement Satellite Application - no new frequency bands  
 b11. Replacement Satellite Application - new frequency bands (Not eligible for streamlined processing)  
 b12. Petition for Declaratory Ruling to be Added to the Permitted List  
(N/A) b13. Other (Please specify)

17c. Is a fee submitted with this application?

If Yes, complete and attach FCC Form 159.

If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).

Governmental Entity     Noncommercial educational licensee

Other (please explain): Letter of Intent Application – No Fee

17c. Fee Classification    BNY – Space Station (Geostationary)

18. If this filing is in reference to an existing station, enter:

(a) Call sign of station:  
Not Applicable

19. If this filing is an amendment to a pending application enter:

(a) Date pending application was filed:

Not Applicable

(b) File number of pending application:

Not Applicable

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply:	
<input checked="" type="checkbox"/> a. Fixed Satellite <input type="checkbox"/> b. Mobile Satellite <input type="checkbox"/> c. Radiodetermination Satellite <input type="checkbox"/> d. Earth Exploration Satellite <input type="checkbox"/> e. Direct to Home Fixed Satellite <input type="checkbox"/> f. Digital Audio Radio Service <input type="checkbox"/> g. Other (please specify)	
21. STATUS: Choose the button next to the applicable status. Choose only one. <input type="radio"/> Common Carrier <input checked="" type="radio"/> Non-Common Carrier	22. If earth station applicant, check all that apply. Not Applicable
23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities: <input type="radio"/> Connected to a Public Switched Network <input type="radio"/> Not connected to a Public Switched Network <input checked="" type="radio"/> N/A	
24. FREQUENCY BAND(S): Place an "X" in the box(es) next to all applicable frequency band(s). <input type="checkbox"/> a. C-Band (4/6 GHz) <input type="checkbox"/> b. Ku-Band (12/14 GHz) <input checked="" type="checkbox"/> c. Other (Please specify upper and lower frequencies in MHz.) Frequency Lower: 18300                      Frequency Upper: 30000                      (Please specify additional frequencies in an attachment)	



TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

(N/A) a. Fixed Earth Station  
(N/A) b. Temporary-Fixed Earth Station  
(N/A) c. 12/14 GHz VSAT Network  
(N/A) d. Mobile Earth Station  
 e. Geostationary Space Station.  
 f. Non-Geostationary Space Station  
 g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY: Not Applicable

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an "X" in the box(es) next to all that apply.) Not Applicable

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. §§ 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments.  Yes  No

ALIEN OWNERSHIP

Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30-34.

29. Is the applicant a foreign government or the representative of any foreign government?	<input type="radio"/> Yes <input checked="" type="radio"/> No
30. Is the applicant an alien or the representative of an alien?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.	

**BASIC QUALIFICATIONS**

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules?  
If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.

Yes  No

Exhibit A

36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explanation of circumstances.

Yes  No

37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explanation of circumstances.

Yes  No

38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances

Yes  No

39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhibit, an explanation of the circumstances.

Yes  No

40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.

41. By checking Yes, the undersigned certifies, that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application"; for these purposes.  Yes  No

42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.  Yes  No

42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station? United Kingdom

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Letter of intent application seeking authority to operate VIASAT-79W at the 79 WL orbital location using Ka-band frequencies.

GIMS Container

43a. Geographic Service Rule Certification

By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.

A

By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.

B

By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.

C

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.